



Armstrong Flight Research Center Microgravity Flight Services

Industry Day

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Scope of Services

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Scope of Services

- The Contractor shall provide:
 - › **Facilities** such as hangar, ramp, and payload preparation areas;
 - › **Personnel** such as pilots, ground crew, maintenance support, engineers, test directors, and aeromedical support;
 - › **Equipment** such a configured aircraft, ground support equip, payload loading/unloading equipment, and specialized equipment for microgravity flight;
 - › **And Tools** such as straps, clips, and fasteners to integrate microgravity experiments and equipment and maintain the aircraft,
- to accommodate NASA experiments and personnel, obtain airworthiness and safety certifications under Civil Aircraft status and NASA oversight, and prepare for and conduct flights to meet NASA's zero-gravity, partial-gravity, and hyper-gravity testing requirements.

Scope of Services

- Provide up to 20 Flight Weeks per year
 - › Typical Flight Week consists of one day for payload integration and 4 days for flight, with de-integration occurring after the flight on the fourth flight day (5 days total).
 - › Minimum Flight Week has one day for integration and two flight days (3 days total).
 - › Schedule will be requested through a Task Order.

- Provide up to 60 Microgravity Maneuvers (parabolic trajectory or constant-bank turn) per flight.
 - › NASA will not request less than 30 maneuvers per flight.
 - › Payload and maneuver type and number will be requested through a Task Order.

Scope of Services

- Successfully accomplish the microgravity maneuvers within the specified accuracy, stability, and duration.
 - › Zero-g for 12 seconds at $\pm 0.01g$
 - › Partial-g for 20 – 30 seconds at $\pm 0.02g$
 - › Hyper-g for 60 seconds at $\pm 0.05g$
 - › Entry and completion excursions as specified

- Operate and maintain aircraft per FAA and NASA airworthiness and safety requirements

